CHAPTER - II

METHODOLOGY
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SECTION - A
BACKGROUND AND SCOPE OF THE PRESENT STUDY

History of Nursing Education / Profession in India:

History tells us that nursing in India started thousands of years ago as indicated in our ancient treatises (Samhita). Susruta, who was a surgeon gave detailed instructions for absolute cleanliness in all the departments of operation room and for all instruments. Prevention of disease were stressed more than cure even those days.

Susruta also defined a nurse as knowledgeable, devoted to helping patients, pure in body and mind. According to Florance Nightingale, nursing was based on the following tripod. The first, the relation to the patients, the second the relation to the physician and the third, the relation to auxiliary personnel.

The nurse was the skilled servant who operates in strict obedience to the physician's powers. St. Thomas Hospital in London was the first school established in 1840. The Nightingale's concept was that of an independent autonomous dignified profession allied to the medical profession rather than
subordinate to it. Today, university programmes in India are based on this concept. Before the death of Florence Nightingale in 1910, the educated nurses around the world formed a self-governing organisation which is called International Council of Nursing (I.C.N.), its principal motto using "Further the efficient care of the sick and secure the honor and interest of the nursing profession". The World Health Organization insisted upon to train and motivate nursing educators to train the nurses for better primary health care, and some of the important health aspects to include in the curriculum and to implement them. By this, thus, it is possible to mobilize nursing leadership for primary health care.

The 1988 Indian Nursing Council figures show 389 Schools of Nursing have been attached to hospitals in the country which train 1092 diploma graduates yearly. Master's Degree in nursing started in 1959 at Christian Medical College, Vellore. Specialized courses in psychiatric nursing, paediatric nursing, maternity and child health, medical, surgical and community health, nursing are given by only 8 colleges of nursing in India at the post graduate level.

There are 10 short courses offered, e.g. ophthalmic nursing, operation theatre technique, burns and plastic, cardiology, neuro nursing, oncology nursing, etc. still striving for acceptance and recognition for autonomy. The profession itself has the primary responsibility for establishing the code of ethics, standards of nursing education practice and nursing services.
Nurses can offer health care that is cost effective. According to Fagin (1990), cumulative evidence over the past decade shows that nurses can give cost-effective care that can be substituted for physician services in many situations, and that nurses provide new and important services in long term care in the nursing homes. Research findings revealed that nursing practitioners are more effective than physicians at controlling obesity and hypertension relieving symptoms and providing continuity of care. Nursing care can reduce geriatric patients getting admitted in nursing homes and thus reduce their cost of treatment (Fagin, 1990).

Research findings in the United States and the United Kingdom indicate that qualified nurses provide higher quality care by increasing the number of qualified nurses while reducing their total work force. The improved quality of care and cost savings of case management programmes can be attributed to a variety of factors including better education of clients and families, easily identifying patient problems and barriers to care resulting in preventive interventions, early identifications of hospital discharge needs, minimized delay in obtaining health services, reducing duplication of overlapping care, tests and treatments (Bower et al, 1992).

In order to deliver quality care nurses must have a commitment to life long education and the continuous upgrading of
knowledge and skills, continuing education programmes needed to educate nurses. The Royal College of Nursing in the U.K. has issued a manifesto for nursing and health personnel expressing their commitment to national health service, and the role nurses should play in their delivery of this service. The American Nurses Association formulated an Agenda for health care reforms calling for a restructured health care system focussing on consumer and oriented towards health. These documents have been useful for nurses, government authorities and consumers.

Mother Teresa has been a symbol of universal love and service to the human kind. As Florence Nightingale played a notable role in the Crimean war, nursing calls for an extraordinary degree of dedication, sincerity and commitment. Sensitivity to the sufferings of others and a powerful determination to comfort and care are the hallmarks of the nursing profession.

Economic Background of Nurses in India:

Nursing was considered to be one of the noble professions after Nightingale. Earlier to the period of Nightingale (17th to mid 19th century), woman were treated as hired servants to perform the heavy load of daily house work and gave their efforts entirely to the society. The chief duties of a nurse in those days were to take care of the physical needs of the patient,
making sure of reasonable cleanliness. A petty remuneration was paid to the nurse’s dependents on their wish. Nurses were recruited from the lower classes of the community and they were drawn from discharged patients or from the lower strata of society. Nurses existed in low and dismal states of economic conditions, and were considered the most menial of servants. They frequently worked 24 hours a day at a time and pay was insufficient not even to support themselves. The future of these women was bleak. At the beginning of the 20th century nursing services were recognized.

In India nurses were paid less for their services in the early period. The recruitment of nurses was from the lower strata of the community with lower educational qualifications. Their salary was also paid according to the educational qualifications ignoring the labour involved in this profession. In the early part of the present century nurses were service minded, and the profession drew majority of the young girls from the Christian community who dedicated their lives for the sick and needy. They worked 15 to 20 hours a day for patients care.

The remuneration was least compared with other jobs. In recent years in India, nurses are paid better salary in public services and their hours of work has been reasonably reduced. As per the State and the Central Government, scale of pay starts from Rs.1,520/- basic to a total of Rs.3,500/- approximately per
mensum at the beginning and the nurses get promotion to various cadres in the profession leading to better advancement of their economical status. But such condition does not prevail in the private sectors. Nurses work longer hours and are paid less compared with public hospitals. They are very much exploited in the private hospitals and nursing homes.

Although nurses drawn from the lower strata of community, after pursuing the job in the public hospitals, their economic conditions are improved compared to the nurses at the private hospitals and nursing homes.

In recent years, the trend in the nursing profession is that it can uplift economic status by earning more income in overseas employment. Due to this factor the economic status of a sizable number of nurses in India has considerably improved.

Stress in Nursing: Role of Family and Society

The image of nursing as a profession has been changing from time to time. In India nursing was considered to be a low profession in older days, because the recruitment of nurses was from those who had failed in S.S.L.C. (11th Standard) Examination or those with less than S.S.L.C. qualification. Although the nursing service was a noble profession, nurses mostly came from poor families, merely for bread winning purposes and thus not enough self-motivated to give service to human kind.
Nurses encounter various kinds of stress in family and society, because of the work involvement, specifically night duties, special duties, emergency duty, call duty, etc.; they have to attend the hospital at the stipulated time. Most of the hospitals do not have the residential accommodation for nurses; they have to come from long distance to attend their duties, as their income does not permit to secure accommodation nearer to the hospital. They, somehow or other, cannot devote their time to family, husband and children. Many a times a nurse cannot attend to the emotional needs of the family members.

The nurse has to play a dual role in her life. The public image of a nurse is not encouraging, even though there are so many advancements in this field, in both technological and educational aspects (career advancement). But still, the nurses are not regarded as respectable members like other profession. Most of the young girls preferred to learn nursing for quick employment compared with other courses. Very small number of young girls choose nursing to give service to humanity. Employment in government as well as overseas services attract the young girls to this profession mainly because of fast placement and better salary structure compared with other employment.

A nurse is generally expected to be highly sociable and extrovert for the profession, because she has to converse fluently to the patients and their families. She should have
courtesy towards patients and she should convince the patients with regard to severity of the disease and its cure in a comprehensive manner to the patients family and to certain extent to the patient. She should never panic to the patients and their family members. Hence, patients and the family members expect the nurse to be sociable. Further, nurses also should have a close association with doctors, superiors and other fellow nurses, para-medicals and other hospital staff for comprehensive team work.

The nurse has to be kind and useful to the patients and carry out the doctor’s instruction towards patients care in various stages from time to time. Due to close inter-personal relationship, nurse might quite often face husband’s indifferent attitudes towards her for her highly social behaviour. Children are deprived of physical contacts and affection during their physical and emotional discomfort. Therefore, the demanding husband, children and other members of the family contribute to stress in them.

Apart from this, the society and the culture might contribute to indirect stress among nurses. In India nurses come mostly from middle class families or poor background. Most nurses are females. They feel the strain when they face the demands. The nurses are expected to care for her husband, children, parents, etc. in addition to the patients at the hospital.
The professional aspects of nurses in relation to conflicts and stress occur because of the expected multiple roles or demands from house and the hospital. In addition, work situations like clinical evaluation and promotion decisions contribute to conflicts and tension. The degree of job security and the size of pay packages are additional stress factors. Even in the workplace, the nurse must learn to give and receive warmth and caring. Respect for colleagues and the judicious use of humour help maintain objectivity and prospectively reduce interpersonal conflict.

Nurses practise within economic, political and socio-cultural contexts on a local, regional and national level. These are themselves subjected to international influences. Most of the literature on socio-cultural differences is anecdotal rather than empirical. The assumptions about nursing might be erroneous and contrary to the health needs of populations. Only nurses can demonstrate the value of their work.

It has been argued that "nurses must learn to add an assessment of the existing socio-political and economic structure to their traditional client assessment in order to have more realistic and comprehensive data for the provision of nursing care". The 1990 ICN (International Council of Nurses) emphasized self-governments for nurses. This goal still has not been met in all societies. In India, the law states that every school of nursing must be under the direction of a physician.
There are approximately 40 million nursing and midwifery personnel working world wide.

Professional nursing image continues to be a major challenge for all nurses individually and collectively. The image of nursing had been evaluated by Kalish (1982) in five periods of nursing. In the early 1900's nurses were viewed as honorable, moral, spiritual, self sacrificing and ritualistic. In world war I, media representation continued the "Angel of Mercy" image, idealizing nurses and making them a token of exemplary moral purity.

In society the image of women in films was primarily defined by their economic and marital status. A female nurse has been almost always depicted in relationship to a male patient. A familiar theme in the motion pictures was that of the male patient falling in love with his nurse. During 1916 to 1918, the nursing profession activities was largely limited to gentle, maternal concern for the patients comfort. Films generated from Hollywood emphasized nursing as it was during the war. The war provided an improvement of the professions image in novels. The image of the nurse was projected as an autonomous and intelligent health care provider.

During 1919 nursing education regulations were lowered and students were exploited as cheap labourer. Nurses were described
As "faithful, dependent, co-operative, long suffering, and subservient without much benefits to themselves.

During 1930-1945 the society viewed nursing as a worthy and important profession that enabled women to earn an honourable living. Nurses were identified as educated and having certain abilities. During 1946-1965 nurses were chronicled as maternal, compassionate, unassertive, submissive and domestic. Working as a nurse was often seen as a means to obtain amenities such as vacation or luxuries for the home and family.

After 1966, the mother image of the nurse, which was popular in the mid 1940's changed to the sex object image. Nurses were increasingly depicted as being sexually promiscuous, self-indulgent, superficial and unreliable. Eventually, nurses were portrayed as cold, uncaring, poor, hungry, and unmotivated persons. In films of those years, nurses were undervalued and poorly represented. Their contributions to health care were not addressed. They focus the nurse as often chaotised, insulted, and sexually manipulated by the physician. The mass media of the 1980s had not improved the image of the profession.

Individual attitudes, feelings and perceptions are reflected in one's appearance, behaviour and outcome from interactions with others, including patients, peers and the public. Collectively, these nurses' attitudes, behaviour and interaction constitute her self-image.
Tracy (1984) explored specific principles of the self-concept model and studied how these principles actually determine individual achievement in improving the image of the nursing profession. He stressed that nurses should have the belief in themselves and focus their energy on themselves and not on external factors over which one has no control. The concept implies that until nurses internalize feelings of control and professionalism the group will continue to act as if they are powerless and not in control of their own destiny.

Nurses must believe that they are meritorious professionals willing to accept accountability for their lives and practices, no matter what external factors are present. Strasen (1989) suggests that full professional potential for nursing will not be attained until these beliefs are internalized and incorporated into each nurse's daily professional practice. Zalar and Suter (1987) developed the nursing image survey and completed a study that includes a difference between the nurse's self image and the ideal self-image, specifically in the areas of professionalism and stress.

Porter and Lower (1989) designed a study to evaluate the public's perception of the nursing profession. The study concludes that physicians rated 100% positive and the public 84% positive attitude towards nurses. There were very few studies done on the image of nursing profession in India.

Although nurses image has been changing from time to time, because of the social change and modern civilization, their professional image continued to be present in the mind of the society. The indifferent attitudes of the society and the family continued to be present. However, great the attraction towards better and quiet employment, many young girls choose to become nurses in the hope of early employment and attractive pay pockets from overseas.

Character and Morality Dichotomy among Nurses

The nurse should have a good character and morality and high standards of professional ethics. The nurse should have the responsibility to the patients to the profession and to the nurse herself as well as to the community. Discussions in the nursing literature about the usefulness of Kohlberg's theory of moral reasoning for nurses and assertions about the level of moral reasoning scores of nurses have been clouded by inaccuracies and misperceptions.

Under conditions of contemporary highly developed medicine and allied disciplines of the new scientific concept of health care, it is essential that nurses should be harmoniously developed personalities. One of the main characteristics of such a

personality is the overall health potential. The problem of health protection of doctors must be concerned comprehensively not only in conjunction with the general social environment but also in her specific working environment.

Nurses should maintain good character and morality in the profession. Because of extreme socialization with patients and doctors there are all possibilities for doctors and patients to have a good rapport with nurses. The expected role behaviour is very important in the profession. The nurse's character and morality has been suspected and criticised by the people, who might have been patient at one time and did not receive adequate nursing care, during their stay at hospital. However, very few research articles hint upon nurses' unsatisfactory character and morality.

Role and Relevance of Nursing in the Indian Context:

Nurses are expected to be kind and co-operative to the patients and attendants who anxiously await their patients health information. The role and relevance of nursing in the Indian context is simply that the nurse should give emotional comforts to the patients as long as they stay in the hospital. The patients need to be cured sympathetically and the nurse has to act as a surrogate mother.
Apart from this, the nurse has too many roles to play such as cooperation with doctors and coordinate with other professionals in the hospitals for compact and adequate care to the patients. A nurse should have the team support in helping the patients towards health. Since the nurse is the only member of the professional who spends many hours with patients and the professional who has direct contact with the patients and their attendants, she is expected to play a liaison role between doctor and patient.

In addition to this, a nurse functions as a collaborative therapist who can identify the causes and treatment pattern for patients in collaboration with doctors and the patients' families. And also the nurse is responsible for the direction of the therapeutic process. In order to function adequately in this particular role, the nurse should have advanced training in therapeutic techniques.

In the community action role the nurse moves within a framework of the local community and larger socio-economic, political, educational and health system for the purpose of bringing about desired changes which can facilitate health or aid in the treatment and rehabilitation of those who are ill. The nurse's uniqueness in this area is the readiness with which she is perceived by the community as a trustful and helpful member of the health team. The nurse is usually viewed as the most
accessible professional in the health network. In this capacity she assumes responsibility for consultation to health and social agencies and intervention to help individuals, families and groups to cope with crises related to catastrophic life experiences.

Every country has priorities in health care according to its needs. So also in India in the field of community health care. The nurse, therefore, functions in a variety of systems and helps to meet human needs within the established framework. In India nurses are involved both in caring for patients with serious and fatal infective disease and in helping to develop public health programmes for the community. Traditionally, voluntary organizations have provided hospitals and also some mobile health care. Nurses are involved in health educational activities whose aim is to prevent disease by alteration of behaviour patterns. Such behaviour is required in hospitals of staff, patients and relatives.

Further, the involvement of nurse is vital in most areas of medicine. The professional midwife will often have a nursing qualification as well. Because of shortage of doctors in India the nurse may be required to undertake procedures not usually recognised as a professional function, such as anaesthetizing the patient or giving blood transfusion or intravenous infusions.
Such procedures undertaken by the nurses are highly dangerous and should not be administered without the expert instructions.

Psychiatric care is often found to be most successful within the hospital care because of its therapeutic value to the patient in remaining part of the community in largely rural areas.

The World Health Organization assists on an international level in planning, strengthening or extending national nursing and midwifery services. The past few years have seen the nurse taking on new tasks which are more complex, yet still part of the total care of the patient. The role of the nurse varies according to the situation in which nursing is carried out. It may be perceived differently by the nurse herself. It changes according to the needs and expectation of the society as in the changing emphasis at present from treatment of disease to the promotion of health.

Professional nursing and midwifery personnel have as their objective continuing and co-ordination of care in the interest of the comfort, recovery and interfering of the person being carried for. It is a team work both in a nursing team and in the wide health team including all those concerned with preventive, remedial and rehabilitation care.
Scope of the Present Research

A two-dimensional model of job stress has been shown to be associated with both psychological strain and cardio-vascular diseases in a number of recent studies in India, the United States, Britain and elsewhere in the world. Hazardous professions or occupations contribute to psycho-somatic illness and low productivity. Many Indian investigators studied different work environment and their health hazards. Although in the field of nursing profession research has been extensively done in the United States and Britain, in India very little research has been carried out in this field. Gupta & Guilford (1962) studied temperament of nurses and the role of nursing profession. Sharma (1975), Joshi (1976) and Mohan (1986) studied nurses job satisfaction, commitments, responsibility and ideal personality make-up and highlight these as necessary requirements in this profession. An extensive study by Suryamani (1986) highlighted the crucial role of a nurse and the conflicting factors hindering this role in the Indian hospital environment.

Rayner (1984) and Salvage (1983) have studied the distorted image of a nurse. Benne (1959) studied the role of confusion and conflict among nursing professionals. Most recent study by Barnes and Sosale (1988) about the hazards of working in mental hospitals concludes that the mental state of nurses and ward attendants are adversely affected by working in the mental hospitals. Thus, job demands, job specifications and expectations in such a set up has adverse effect on their health adjustment.
The past researchers have little explored the expected role behaviour and conflicts of nurses. None of them has explained the various dimensions of stress factors and attitudes of doctors and patients towards nurses. The present study would explore and quantify the two dimensional job stress model, namely psychological and social factors contributing to stress in the nursing profession.

In general, most of the nurses are women and they are best suited for doing expressive functions. This expressive function of a nurse is very important for the rapid recovery of the patient. But in the modern general hospitals, however efficient she may be, the nurse is not in a position to discharge her expressive functions in an effective way on account of many hurdles.

These contributing factors of stress in this profession would be explored extensively in this study. This study may also suggest remedies for reducing the degree of stress in this profession. This would also help to remove the public misconception about the morality and behaviour of nurses. Although "the nursing profession is a noble profession, the nurses are not noble women". This concept would be examined through scientific investigations and thereby the image of the nursing profession could be uplifted. The nurses's mental health is most important in this care giving profession, so that patients may be cured faster.
Further, the research would find solutions to reduce the stress at different fundamental levels. That is by discussing about the psychological selection procedures in nursing about the nurse's optimum standard of living, salary structure, working conditions and better inter-personal relationship in reducing the stress. This study would also throw light on nurses continuing education programme so as to update their knowledge in the advanced medical field and about the better understanding of the psychology of the patient, thus showing ways in which inter-personal tension would be reduced.

The present study would throw light on the varied dimensions and aspects of the nursing profession.
SECTION - B

RESEARCH METHODOLOGY

The present study is designed to identify the occupational stress and its influence on psychological deviation and psycho-somatic problems among nurses. Various occupational stressors might contribute to emotional stress and may develop into some kind of psycho-somatic illnesses. The nurses come to this profession with all sorts of imaginations and high hopes. When they fail to fulfill them, they are mentally disturbed and develop adjustment problems. Thus, the chronic emotional stresses and adjustment problems might affect the care for patient.

It is reasonable to assume that the stress among nursing professionals may have some bearing upon lowering patient care and psychological deviations on nurses themselves. Those who are having the stress and psychological deviations might not be able to maintain professional standards. When the intensity of stress increases the nurse may have more adjustment problems and serious psycho-somatic disorders. This study is an attempt to investigate these problems and provide feasible practical solutions.
Aims and objectives: Nursing profession had been recognised as a noble profession since Florence Nightingale rendered service to the wounded soldiers in her nursing care in both hospitals and battlefield. Since then enormous changes had been taken in the field of nursing. Modern technological advancement entered into all walks of life, it did not spare the nursing profession even. Due to fast global growth of population which contribute to unhygienic conditions, exploration of various energies, natural calamities, stressful life conditions became inevitable. This would ultimately lead to vast percentage of the population succumbed to the various types of diseases, which ultimately lead the patients to the hospital. The hospitalization might be short or long sojourn for the patient.

But, for the nurses patient care is the prime importance in the hospital. And they have to continue caring for patients with constant role behaviour. Since nurses are the only full time health care personnel for the patients, they quiet often burn out for so many reasons. As Kind (1983) views nursing as 'a process of action, reaction, interaction and transaction whereby nurses assist people of all age group, meet their basic needs in performing activities of daily living and cope with health and illness at some particular point in the life cycle. Further
nurses in negative attitude towards patients might lengthened the patients stay in the hospital. Apart from this, certain other factors also seem to be present in the working situation which hinders the nurse in her efforts to humanise her care.

Because there is a paucity of research in this area, the study aims to identify stress among nurses through a two-dimensional approach comprising psychological and sociological factors. Within the two-mode approach various dimensions of stress would be measured, viz. like, life stress, occupational stress and inter-personal conflicts among nurses in various types of hospital conditions. Apart from this, nurses problems related to hospitals, administrations and their personal problems would be explored extensively. Further, nurses perceived psychiatric problems in relation to work attitudes and the manifestation of psychosomatic symptoms would be studied.

Keeping the above facts in view, the following objectives have been framed to study stress in the nursing profession through a two-dimensional approach comprising psychological and social factors. A nurse who is having a psychological problem may also have some physiological problem, for example, the psychosomatic illnesses.
The two-model approach comprises occupational stress and life stress. It may lead to inter-personal problems between nurses and doctors and between nurses and patients. The important aim is to look at the relationship between stress and psychological deviation among nurses from various angles.

To find out the general opinion about nurses from doctors and patients so as to ascertain any possible association of stress with the negative attitude.

To study the influence of other factors like age, experience, marital status, the organisational climate and their religion upon the nurses stress and strain, so that a comprehensive stress relieving model can be suggested to minimise the stress along with coping strategies, which can alleviate the mental health of nurses, enabling them to give best care to the patients. This would facilitate quicker recovery with supportive drugs and positive nursing care. Thus, the nursing profession could be uplifted and the professional standard enhanced and ultimately improving the quality nursing care as well as the quality of work life of the nurses.
Assumptions: The study has the following assumptions:

- Nurses are facing occupational stress.
- Nursing (professional) stress leads to psychological problems.
- Because of professional stress, they may be prone to psychosomatic disorders.
- Stress increases the cardiovascular function in nursing profession.
- A two-factor professional stress - (psychological and socio-logic) approach may help in understanding the diminishing patient care by the nurses.

Hypothesis: In the light of the above discussion, this study attempts to examine the following hypothesis: Nurses as professionals face many psycho-social problems which cause stress in them. They, under the stress, may not be able to discharge their expected duties or functions fully and satisfactorily.
Research Design: The present research has been designed to study 'A' grade qualified nurses in Dakshina Kannada District, Mangalore, India.

The following experimental protocol was employed keeping in view the aims and objectives of the study.
Pilot Study: Prior to the actual study, a pilot study was undertaken in five hospitals (2 public and 3 private) in the city of Mangalore by administering a series of eight questionnaires (close-ended) adopted from previous studies with little modifications where ever necessary. A sample of 50 nurses, 50 doctors and 50 patients was randomly, selected ten each from each of the hospitals.

The questionnaires deal with the following aspects:
- Occupational stress.
- Psychological deviations.
- Psycho-somatic (psycho-physiological illnessess).
- Life stress.
- Opinion of nurses towards doctors.
- Opinion of nurses towards patients.
- Opinion of doctors towards nurses.
- Opinion of patients towards nurses.

The details of the questionnaires are given in the actual study under the section dealing with "Research tools and devices".

The questionnaires were prepared in English, it was found that some of the nurses found it difficult to understand the correct meaning of the questions because of language problems. Subsequently, the questionnaires for nurses and patients were
slightly modified in simple understandable language. For patients having no knowledge of English, the questionnaire was translated into local language to get the correct and reliable response. However, doctors questionnaire was not modified.

All the questionnaires are appended herewith (Appendix A to I). Each questionnaire was graded into two point, three-point and five point scale to ascertain the magnitude of the problems from the responses obtain from the subjects. Score values for individual subjects were determined using the standard scoring methods described below:

Methods of scoring: The scoring pattern for different responses obtained through different questionnaires were analysed using the following scoring keys.

Scoring Key

A) Occupational Stress Index For Nurses:

The scores are awarded for the each item of the questionnaire as given in the table below:

<table>
<thead>
<tr>
<th>Categories of response</th>
<th>True scores</th>
<th>False scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Undecided</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Agree</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>
Sub-scale scoring key: The items of the questionnaire (Appendix A) have been re-arranged according to the sub-scales as shown in the table below.

<table>
<thead>
<tr>
<th>Sub-scale</th>
<th>Item No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role overload</td>
<td>1, 13, 25, 36, 44, 46</td>
</tr>
<tr>
<td>Role ambiguity</td>
<td>2, 14*, 26, 37</td>
</tr>
<tr>
<td>Role conflict</td>
<td>3, 15*, 27, 37*, 45</td>
</tr>
<tr>
<td>Unreasonable group &amp; political pressure</td>
<td>4, 16, 28, 39</td>
</tr>
<tr>
<td>Responsibility for persons</td>
<td>5, 17, 29</td>
</tr>
<tr>
<td>Under participation</td>
<td>6*, 18*, 30*, 40*</td>
</tr>
<tr>
<td>Powerlessness</td>
<td>7*, 19*, 31*</td>
</tr>
<tr>
<td>Poor peer relation</td>
<td>8*, 20*, 32*, 41*</td>
</tr>
<tr>
<td>Intrinsic impoverishment</td>
<td>9, 21*, 33*, 42</td>
</tr>
<tr>
<td>Low status</td>
<td>10*, 22*, 34</td>
</tr>
<tr>
<td>Strenuous working condition</td>
<td>12, 24, 35, 43*</td>
</tr>
<tr>
<td>Unprofitability</td>
<td>11, 23</td>
</tr>
</tbody>
</table>

* Indicate false key.

The raw scores calculated from the questionnaire (Appendix A) have been classified according to the severity of stress as shown in the following table.

<table>
<thead>
<tr>
<th>Sub-scales</th>
<th>Level of stress</th>
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<tbody>
<tr>
<td></td>
<td>Mild</td>
</tr>
<tr>
<td>Role overload</td>
<td>6 - 14</td>
</tr>
<tr>
<td>Role ambiguity</td>
<td>4 - 9</td>
</tr>
<tr>
<td>Role conflict</td>
<td>5 - 12</td>
</tr>
<tr>
<td>Unreasonable group &amp; political pressures</td>
<td>4 - 9</td>
</tr>
<tr>
<td>Responsibility for persons</td>
<td>3 - 7</td>
</tr>
<tr>
<td>Under participation</td>
<td>4 - 9</td>
</tr>
<tr>
<td>Powerlessness</td>
<td>3 - 7</td>
</tr>
<tr>
<td>Poor-peer relations</td>
<td>4 - 8</td>
</tr>
<tr>
<td>Intrinsic impoverishment</td>
<td>4 - 9</td>
</tr>
<tr>
<td>Low status</td>
<td>3 - 6</td>
</tr>
<tr>
<td>Strenuous working condition</td>
<td>4 - 9</td>
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<tr>
<td>Unprofitability</td>
<td>2 - 4</td>
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<tr>
<td></td>
<td>15 - 22</td>
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<td></td>
<td>10 - 12</td>
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<td>23 - 30</td>
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<td></td>
<td>13 - 20</td>
</tr>
<tr>
<td></td>
<td>18 - 25</td>
</tr>
<tr>
<td></td>
<td>15 - 20</td>
</tr>
<tr>
<td></td>
<td>12 - 15</td>
</tr>
<tr>
<td></td>
<td>14 - 20</td>
</tr>
<tr>
<td></td>
<td>12 - 15</td>
</tr>
<tr>
<td></td>
<td>13 - 20</td>
</tr>
<tr>
<td></td>
<td>8 - 10</td>
</tr>
</tbody>
</table>

Total: 46 - 122  123 - 155  156 - 230
b) Medico-psychological Questionnaire For Nurses:

All the 51 items of the questionnaire (Appendix B) are awarded 2 scores for positive response and 1 score for doubtful responses and no score for the negative response. The total obtained score were treated as follows:

- Less than 16 ... Emotionally stable (well adjusted).
- 17 - 45 ... Emotionally unstable (mal adjusted).
- 46 or more ... Neurotic.

The items of the questionnaire were further statistically treated with sub-scales and the significant items on each sub-scale are treated separately as shown in the table below.

<table>
<thead>
<tr>
<th>Sub scale items</th>
<th>No. of items</th>
<th>Significant items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hysteria</td>
<td>10</td>
<td>4, 5, 9, 12, 13, 15, 18, 22, 38, 48</td>
</tr>
<tr>
<td>Anxiety neurosis</td>
<td>8</td>
<td>6, 8, 20, 27, 31, 32, 35, 41</td>
</tr>
<tr>
<td>Neurosthenia</td>
<td>10</td>
<td>2, 11, 21, 28, 30, 37, 40, 43, 44, 46</td>
</tr>
<tr>
<td>Reactive depression</td>
<td>15</td>
<td>1, 3, 10, 14, 17, 23, 24, 25, 29, 34, 39, 43, 45, 47, 50</td>
</tr>
<tr>
<td>Obsession compulsion</td>
<td>7</td>
<td>7, 16, 19, 26, 33, 36, 49</td>
</tr>
</tbody>
</table>

c) Psycho-physiological Illness:

The scores for this questionnaire (Appendix C) are awarded as follows: all positive responses 2 scores and all negative responses no score. Since all the questions were direct, and the responses could be obtained accurately, positive responses were awarded as above score for statistical treatment. The scores are interpreted as follows:

- Less than 14 ... Mild illness
- 15 - 29 ... Moderate illness
- 30 - 42 ... Severe illness

The significant items of the questionnaire were taken from the American Psychological Association (APA) Classification of Psycho-physiological disorders, and are given in the following table along with the sub-scales:

<table>
<thead>
<tr>
<th>Sub scale items</th>
<th>No. of items</th>
<th>Significant items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin disorder</td>
<td>3</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>Musculo-skeletal disorder</td>
<td>4</td>
<td>4, 5, 6, 22</td>
</tr>
<tr>
<td>Respiratory disorder</td>
<td>4</td>
<td>7, 8, 9, 10</td>
</tr>
<tr>
<td>Cardio-vascular disorder</td>
<td>2</td>
<td>11, 12</td>
</tr>
<tr>
<td>Gastro-intestinal disorder</td>
<td>2</td>
<td>13, 14</td>
</tr>
<tr>
<td>Endocrine disorder</td>
<td>3</td>
<td>15, 16, 21</td>
</tr>
<tr>
<td>Genito-urinary disorder</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>Organs of special sense disorder</td>
<td>3</td>
<td>17, 19, 20</td>
</tr>
</tbody>
</table>
d) **Nurses Presumptive Life Stress Scale**:

The scores for each of the items of this questionnaire (Appendix D) were awarded with one score for all positive responses for the preceding one year and life period and no score for negative responses. The average score for each item was calculated by using the following method.

\[
\text{Past 1 year + Life period} \div 2 = \text{Average presumptive life stress score}
\]

The following norms were adopted to analyse these scores.

- Less than 5 score indicate no life stress.
- More than 5 score indicate presence of life stress.

e) **Nurses Opinion Towards Doctors**:

The inter-personal attitude between doctors and nurses was determined with three-point scale. All positive responses are awarded with 2 score, doubtful with 1 score and negative with no score for all true keyed items. And the reverse scoring for the false key items as shown in the table below.

<table>
<thead>
<tr>
<th>True key items of positive score</th>
<th>False key items of negative score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 3, 4, 6, 7, 8, 9</td>
<td>5, 10</td>
</tr>
<tr>
<td>11, 12, 13, 14, 15, 16, 17</td>
<td></td>
</tr>
</tbody>
</table>
The scores worked out were interpreted as per the norms given below:

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 10</td>
<td>Positive attitude</td>
</tr>
<tr>
<td>11 - 20</td>
<td>Neutral</td>
</tr>
<tr>
<td>Above 21</td>
<td>Negative attitude towards doctors</td>
</tr>
</tbody>
</table>

f) Nurses Opinion Towards Patients:

The scores were calculated using Likert's three-point scale, i.e., positive responses are awarded with 2 scores, doubtful with 1 score and negative, no score in true items, and few false key items are awarded with 2 score as given below.

<table>
<thead>
<tr>
<th>True key items</th>
<th>False key items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 3, 4, 5, 6, 7, 8, 10</td>
<td>9, 11, 12</td>
</tr>
</tbody>
</table>

The scores were interpreted as follows:

- Less than 8 ... Positive attitude
- 9 - 15 ... Neutral
- Above 15 ... Negative attitude
g) **Doctors Opinion Towards Nurses:**

The scores are awarded for all the items as per the three points-scale of Likert: 2 score for positive, one for doubtful response, and no score for negative response for the true keyed and reverse score for the false key items. Doubtful response scoring remains the same.

<table>
<thead>
<tr>
<th>True key items</th>
<th>False key items</th>
</tr>
</thead>
<tbody>
<tr>
<td>2, 4, 6, 8, 9, 10, 25, 26</td>
<td>1, 3, 5, 7, 12, 11, 13, 14, 15</td>
</tr>
<tr>
<td>16, 17, 18, 19, 20, 21, 22, 23, 24</td>
<td></td>
</tr>
<tr>
<td>27, 28, 29</td>
<td></td>
</tr>
</tbody>
</table>

Sub-scale items are given in the following table along with the corresponding significant items:

<table>
<thead>
<tr>
<th>Sub scale</th>
<th>No. of items</th>
<th>Significant items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing services</td>
<td>11</td>
<td>1, 2, 3, 4, 5, 11, 13, 20, 25, 26, 27</td>
</tr>
<tr>
<td>Nurses submission to doctors.</td>
<td>6</td>
<td>6, 7, 8, 9, 10, 12</td>
</tr>
<tr>
<td>Nurses family background</td>
<td>3</td>
<td>14, 15, 16 ground</td>
</tr>
<tr>
<td>Morality</td>
<td>9</td>
<td>17, 18, 19, 20, 21, 22, 23, 23A, 23B</td>
</tr>
<tr>
<td>Nurses economic status</td>
<td>2</td>
<td>24, 29</td>
</tr>
</tbody>
</table>
h) Patients Opinion Towards Nurses:

Here also three-point scale of Likert was used. A positive responses are awarded with 2 score, doubtful with 1, and negative, no score. The sub-scale items and the corresponding significant items are listed in the table below.

<table>
<thead>
<tr>
<th>Sub scale item</th>
<th>No. of items</th>
<th>Significant items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing services</td>
<td>12</td>
<td>2, 3, 4, 5, 6, 11, 14, 15, 22, 24, 25, 27</td>
</tr>
<tr>
<td>Nurses family background</td>
<td>7</td>
<td>7, 8, 8A, 8B, 8C, 9, 10</td>
</tr>
<tr>
<td>Nurse morality</td>
<td>5</td>
<td>12, 18, 19, 23</td>
</tr>
<tr>
<td>Economic status</td>
<td>2</td>
<td>21, 26</td>
</tr>
</tbody>
</table>

The scores were interpreted as follows:

- Less than 21 ... Negative opinion
- 22 - 43 ... Neutral
- Above 44 ... Positive opinion
By using all these scoring keys, the score index for individual questionnaire was worked out for each question for each individual and added together to obtain the total score for the particular factor.

Reliability and validity of the tests: In order to assess the reliability and validity of the responses obtained through the questionnaires, the same questionnaires were administered again to the same nurses, doctors and patients after a period of a month to elicit their response afresh. The responses were analysed using standardize scoring keys and the score index was obtained. The scores thus obtained in two different occasions were statistically analysed to see if there was any significant difference between the two. The score patterns are shown in the following table: As could be observed, the difference was not statistically significant, suggesting thereby the reliability of the use of the questionnaires.
Test-Retest Values for Reliability of the Questionnaire:

<table>
<thead>
<tr>
<th>Experimental Tools</th>
<th>N</th>
<th>Mean of (Test I)</th>
<th>SD</th>
<th>Mean of (Test II)</th>
<th>SD</th>
<th>'t' value</th>
<th>Level of Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational stress</td>
<td>50</td>
<td>152.26</td>
<td>19.54</td>
<td>147.85</td>
<td>20.30</td>
<td>0.04</td>
<td>NS</td>
</tr>
<tr>
<td>Psycho-deviation</td>
<td>50</td>
<td>25.79</td>
<td>13.88</td>
<td>24.60</td>
<td>13.92</td>
<td>0.42</td>
<td>NS</td>
</tr>
<tr>
<td>Psychosomatic illness</td>
<td>50</td>
<td>11.31</td>
<td>7.07</td>
<td>12.61</td>
<td>7.02</td>
<td>0.92</td>
<td>NS</td>
</tr>
<tr>
<td>Nurses presumptive life stress</td>
<td>50</td>
<td>3.73</td>
<td>2.02</td>
<td>3.70</td>
<td>2.01</td>
<td>0.07</td>
<td>NS</td>
</tr>
<tr>
<td>Nurses opinion towards patients</td>
<td>50</td>
<td>16.48</td>
<td>2.85</td>
<td>17.12</td>
<td>2.58</td>
<td>0.43</td>
<td>NS</td>
</tr>
<tr>
<td>Nurses opinion towards Doctors</td>
<td>50</td>
<td>21.61</td>
<td>2.23</td>
<td>20.19</td>
<td>2.26</td>
<td>3.16</td>
<td>NS</td>
</tr>
<tr>
<td>Doctors opinion towards nurses</td>
<td>50</td>
<td>39.60</td>
<td>4.79</td>
<td>38.96</td>
<td>4.80</td>
<td>0.66</td>
<td>NS</td>
</tr>
<tr>
<td>Patients opinion towards nurses</td>
<td>50</td>
<td>46.31</td>
<td>8.43</td>
<td>47.16</td>
<td>8.39</td>
<td>0.50</td>
<td>NS</td>
</tr>
</tbody>
</table>

* NS = Not Significant

It may be worth mentioning here that some of the questionnaires used in the pilot study were earlier successfully tried by the designers. Thus proving their validity in different situations. Few of them, viz. the questionnaires on psychosomatic illness, nurses opinion towards patients and doctors and doctors' and patients' opinions towards nurses were designed for the present study.
Actual study: The details are outlined below:

a) **Sampling Procedure:**

The subjects of the present study were randomly selected and were divided into three groups, viz. nurses, patients, and doctors, as shown in the following profiles and figures 1 to 6.

**Total Sample Profile:**

<table>
<thead>
<tr>
<th>Sample Size</th>
<th>(N = 800)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse</td>
<td>(N = 400)</td>
</tr>
<tr>
<td>Doctor</td>
<td>(N = 200)</td>
</tr>
<tr>
<td>Patient</td>
<td>(N = 200)</td>
</tr>
</tbody>
</table>

**Nurses Sample Profile:**

<table>
<thead>
<tr>
<th>Age Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
</tr>
<tr>
<td>&lt; 25 YEARS</td>
</tr>
<tr>
<td>26 - 35</td>
</tr>
<tr>
<td>36 - 45</td>
</tr>
<tr>
<td>&gt; 46</td>
</tr>
</tbody>
</table>
FIG. 1 AGE GROUPS OF NURSES

< 25 yrs
25-35
36-45
46 and above
FIG. 2 FIELD EXPERIENCE OF NURSES (Years)

- < 3 yrs: 118
- 3-9 yrs: 61
- 10-12 yrs: 35
- > 12 yrs: 37
FIG. 3 AGE GROUPS OF PATIENTS

- < 25 yrs
- 26-30
- 31-35
- 36-40
- 41-45
- 46-50
- 50 and above
FIG. 4 AGE GROUPS OF DOCTORS
FIG. 5 MARITAL STATUS OF NURSES

53.5% Married

46.5% Unmarried
FIG. 6 NURSES DISTRIBUTIONS IN GOVERNMENT AND PRIVATE HOSPITALS

Government Hospital

Private Hospital
Professional Experience Profile

Total
(N = 400)

- < 3 YEARS (N = 149)
- 4 - 6 (N = 61)
- 7 - 9 (N = 35)
- 10 - 12 (N = 37)
- > 12 YEARS (N = 118)

Marital Status Profile

Total
(N = 400)

- MARRIED (N = 214)
- UNMARRIED (N = 186)

Nurses Type of Organization Profile

Total
(N = 400)

- Government Hospitals (N = 200)
- Private Hospitals (N = 200)

Nurses Religion Profile

Total
(N = 400)

- Hindus (N = 190)
- Christians (N = 210)
The sample for this study consists of 400 'A' grade nurses working in various hospitals in Dakshina Kannada District, Karnataka state, India. The nurses working in these hospitals drawn from both public sector and private sectors of 200 samples each. The total qualified 'A' grade nurses population available in this districts was eight hundreds. It was proposed to have 50 percent sample in this population and thus the sample size was 400 nurses.

Depending upon the total strength of the nurses in a particular hospital, a proportionate sample was drawn. These nurses were drawn from the Medical, Paediatric, Tuberculosis, Leprosy, Intensive care unit and Cardio-thoracic wards selected at random depending upon the availability. All of them were females with basic qualification of S.S.L.C (Secondary School Leaving Certificate) with 3 1/2 years certificate in general nursing and midwifery. The age of nurses ranged from 20 to 50 years. The nurses belong to various socio-economic status, varying religions, castes and cultures.
2. Doctors Sample Profile

Gender Profile

Total
(N = 200)

Male Doctors
(N = 122)
Female Doctors
(N = 78)

Doctors Age Profile

Total
(N = 200)

< 30 YEARS 31 - 35 36 - 40 40 - 46 > 46 YEARS
(N = 92) (N = 30) (N = 23) (N = 17) (N = 38)

Specialists Doctors Profile

Total
(N = 200)

Dentist Gynaecologist Physician Surgeon Taboo Psychiatrist
(N = 20) (N = 16) (N = 55) (N = 86) Specialist (N = 8)
(N = 15)

A total of 200 doctors, 100 each from private and public hospitals, was randomly selected from various hospitals. The doctors are post-graduates from varying socio-economic, cultural and age groups. They were physicians, surgeons, gynaecologists, psychiatrists, dentists, homeopathic physicians and taboo (disease associated with social stigma) specialists of either sex. The age of doctors are varied from 25 years to 50 years.
3. Patients Sample Profile:

Total 
(N = 200)

Gender Profile

Total 
(N = 200)

Male Patients 
(N = 122)

Female Patients 
(N = 78)

Ward Profile

Total 
(N = 200)

Gynaecology 
(N = 34)

Medical 
(N = 90)

Surgical 
(N = 55)

Taboo Ward 
(N = 13)

Psychiatry 
(N = 8)

All the 200 patients belonging to different genders were randomly selected from different hospitals, both private and public. Further, they were drawn from 5 different wards, viz. medical, surgical, intensive care unit, maternity and taboo wards. They come from different socio-economic status and religious groups. The age of the patients were from 16 to 65 years.
Research tools and devices: The following tools and devices were used:

Psychological Tools:

The Occupational Stress Index (OSI)

The occupational stress index developed by Srivastava and Singh (1981) was adopted with minor modifications suitable to nurses. The tests consist of 46 items covering twelve dimensions of occupational stress. They are: role overload, role ambiguity, role conflict, unreasonable group and political pressures, responsibility for persons, under participation, powerlessness, poor relations, intrinsic impoverishment, low status, strenuous working conditions and unprofitability. Twenty-eight of them are true-keyed items and the remaining 18 items are false keyed items. It is a 5-point scale questionnaire consisting of 'strongly disagree', 'disagree', 'undecided', 'agree' and 'strongly agree'.
Medico-Psychological Questionnaire (MPQ)

The Medico-Psychological questionnaire was originally designed by Bharathraj. It consists of 50 items carefully selected from earlier instruments for measuring neurosis like the rating scales from Catell (1965). Items were also chosen from Coleman's Abnormal Psychology and Modern Life (1972).

A total score derived from the diagnostically significant items is reflective of general neuroticism, which is interpretable on the emotional adjustment, mal-adjustment continuum. Each item is to be answered encircling "Yes" or "No" categories. After all the 50 items are answered, the number of "Yes" answers are counted and the total has to be multiplied by 2 to give proper weightage. Similarly, the number of doubtful (?) answers are calculated and the total is multiplied by 1 to give weightage. The overall test score would be interpreted as follows:

Number of "Yes" responses * 2
Number of "?" (doubtful) responses * 1

Psychosomatic Complaints Questionnaire (APA-Pcq))

This questionnaire was adopted from the model of American Psychological Association Classification for psycho-physiological disorders. In this classification 10 categories of psycho-physiological disorders are framed in 17 questions, which consist of psycho-physiological skin disorders, musculo-skeletal disorders, respiratory disorders, cardio-vascular disorders, hemic disorders, endocrine disorders, organs of special sense and psycho-physiological disorders of other types like disturbance in the nervous system. Two of them were not related with the present study samples. They are hemic Lymphatic and disturbance with nervous system, and thus were excluded.

Presumptive Stressful Life Inventory Scale (PSLE):

This scale was designed by Singh, Kaur and Kaur (1988). The test was adopted without any modification. The scale consists of 51 life events. The responses for all the items were recorded for the preceding one year and for the life period.

Psycho-social Tools

Nurses Opinion Towards Doctors Questionnaire

This questionnaire consists of 17 specially designed items while having an informal interview with group of nurses about
their problems and grievances towards doctors, prior to the study. The items are related to interpersonal relationship between doctors and nurses at work place.

**Interview Schedule On Nurses Opinion Towards Patients**

This questionnaire was designed while having an informal interview with a group of nurses about their problems and complaints related to patients' behaviour in the ward situation. The questionnaire consists of 12 items.

**Questionnaire On Doctors Opinion Towards Nurses**

The questionnaire was designed after having an interview with a few senior doctors of various speciality. It has 29 items consisting of doctors' opinion towards nursing services, nurses family background, professional ethics, morality and their socio-economic status.

**Patients Opinion Towards Nurses**

The questionnaire was designed while making an interview with a group of patients regarding their grievances towards nurses. It consists of 27 items divided into 4 categories of measurement such as nursing services, nurse's family background, morality and economic status.
Detailed Procedure

All the test tools/devices were found to be very satisfactory in regard to their reliabilities and validities. The nurse's questionnaires were printed into 500 copies and bound into booklet forms. The questionnaires for doctors, patients and nurses' opinion survey forms cyclostyled in to 250 copies each. Then the selected hospitals and nursing home authorities were met and permission to conduct the study was sought and the list of actual number of qualified staff nurses list was obtained for the purpose of selection. Simultaneously, the doctors and patients' data's were also collected.

Using the random sampling technique, the nurses, doctors and patients were approached individually requested to spare some time for the test. The respective questionnaire was distributed to the subjects individually. The subjects were instructed to complete all the questionnaires without omitting any of the item.

The subjects were also assured their identities would be kept confidential and were instructed not to mention their names in the questionnaire.

No time limit was fixed for completing the questionnaire. The nurses took 30 minutes to complete their booklet. The doctors and the patients took 5 and 10 minutes respectively. The
questionnaires were collected as soon as they were completed and verified. During the interviews the nurse's behaviour observed while on duty. The same procedures were followed in all the hospitals and nursing homes.

Statistical treatment: The data were statistically treated with Chi-square test for associations, frequency distribution, multiple regression analysis and logistic regression analysis.

Chi-Square Test For Association

The Chi-square test for association is useful to analyse the significance of the association between two attributes. When expected in any cell is less than 5, Fishers test is more reliable than the Chi-square. Chi-square test for linear trend is applied to see the age-group association with dependent variables.

Multiple Regression Analysis

Multiple regression technique used to build the model is linear in regression and to summarize data as well as to study relations among variables.
The multiple regression model expressed as:

\[ Y = B_0 + B_1 x_{1i} + B_2 x_{2i} + \ldots + B_p x_{pi} + e_i \]

The notation \( p_i \) indicates the value of the \( p \) th independent variable for case \( i \). \( B \) terms are unknown parameters which can be estimated using data, and \( e_i \) terms are independent random variables that are normally distributed with mean 0 and constant variance. The model assumes that there is a normal distribution of the dependent variable of every combination of the values of the independent variables in the model.

**Logistic Regression**

Logistic regression analysis is often used to analyse the relationship between a dichotomous outcome and factors believed to be related to this outcome.

Considering linear regression model,

\[ Y = a + b_1 x_1 + b_2 x_2 + \ldots + b_k x_k + e \]

in the case of binary response variable

\[ Y = 1 \text{ for good} \]
\[ Y = 0 \text{ for poor.} \]

Hence, multiple linear regression is not suitable for binary response variables.
The data were fed to the computer and some of the statistical analyses were done by using SSPS package.

Limitations of the Study:

- The present study is confined to the Indian hospital culture and to the pattern of Indian hospital administration.

- The study could not isolate and study the trend of nurses' behaviour particularly in specialised wards, because the nurses are rotated in different wards after a specific period.

- The study might not be able to fully avert the self-response bias of the respondents.

* * * * * * * * *